



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/811,023	03/26/2004	Norio Matsumoto	4415-0024	9819

35301 7590 04/07/2006

MCCORMICK, PAULDING & HUBER LLP
CITY PLACE II
185 ASYLUM STREET
HARTFORD, CT 06103

EXAMINER

STAICOVICI, STEFAN

ART UNIT

PAPER NUMBER

1732

DATE MAILED: 04/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/811,023	Applicant(s) MATSUMOTO ET AL.	
	Examiner Stefan Staicovici	Art Unit 1732	

– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 March 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) 6-16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 3/26/04 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election of Group I, claims 1-5, in the reply filed on March 27, 2006 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

3. Claims 1-2 and 4 are rejected under 35 U.S.C. 102(a) as being anticipated by Lunde (US Patent No. 6,692,681 B1).

Lunde ('681) teaches the claimed process for making a hollow fiber reinforced article including, providing a mandrel body having a plurality of fluid holes, placing a bladder (internal-pressure holding tube) around said mandrel, wrapping a plurality of fiber reinforced pre-preg plies around said bladder to form a wrapped assembly, placing said wrapped assembly in a clamshell mold (vacuum chamber having a forming die), removing said mandrel body and pressurizing said bladder while heating to thereby cure and force said fiber reinforced pre-preg plies against the interior of said mold (see Abstract; col. 8, lines 46-63; col. 9, line 32 through

col. 10, line 30; col. 15, lines 47-58; col. 20, line 42 through col. 21, line 5 and col. 22, lines 8-44). Further, it is noted that because Lunde ('681) teaches applying a vacuum to said mandrel body, hence compacting said plurality of fiber reinforced pre-preg plies around said bladder/mandrel body, it is submitted that said plurality of fiber reinforced pre-preg plies do not come in contact with said clamshell mold.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Murphy et al. (US Patent No. 6,352,662 B1) in view of Nelson *et al.* (US Patent No. 6,143,236).

Murphy et al. ('662) teach the basic claimed process for making a hollow fiber reinforced article including, providing a mandrel (50), wrapping said mandrel (50) with a bladder, wrapping said bladder with a plurality of fiber reinforced pre-preg plies (60,62) to form a wrapped assembly, placing said wrapped assembly in a mold and, heating and pressurizing said pre-preg plies by introducing a pressurized gas through said mandrel to thereby cure and form said hollow fiber reinforced article (see col. 5, lines 21-58).

Regarding claim 1, Murphy et al. ('662) does not teach applying a vacuum such that said plurality of fiber reinforced pre-preg plies do not contact said mold. Lunde ('681) teaches a

process for making a hollow fiber reinforced article including, providing a mandrel body having a plurality of fluid holes, placing a bladder (internal-pressure holding tube) around said mandrel, wrapping a plurality of fiber reinforced pre-preg plies around said bladder to form a wrapped assembly, placing said wrapped assembly in a clamshell mold (vacuum chamber having a forming die), removing said mandrel body and pressurizing said bladder while heating to thereby cure and force said fiber reinforced pre-preg plies against the interior of said mold (see Abstract; col. 8, lines 46-63; col. 9, line 32 through col. 10, line 30; col. 15, lines 47-58; col. 20, line 42 through col. 21, line 5 and col. 22, lines 8-44). Further, it is noted that because Lunde ('681) teaches applying a vacuum to said mandrel body, hence compacting said plurality of fiber reinforced pre-preg plies around said bladder/mandrel body, it is submitted that said plurality of fiber reinforced pre-preg plies do not come in contact with said clamshell mold. Therefore, it would have been obvious for one of ordinary skill in the art to provide a vacuum as taught by Lunde ('681) to the mandrel in the process of Murphy et al. ('662) because, Lunde ('681) teaches that such a procedure allows for improved fiber placement, hence providing for an improved molded product.

In regard to claim 2, Murphy et al. ('662) teach providing a mandrel (50), wrapping said mandrel (50) with a bladder and wrapping said bladder with a plurality of fiber reinforced pre-preg plies (60,62) to form a wrapped assembly (see col. 5, lines 21-58).

Specifically regarding claim 3, Murphy et al. ('662) teach heating and pressurizing said pre-preg plies by introducing a pressurized gas through said mandrel to thereby cure and form

said hollow fiber reinforced article (see col. 5, lines 21-58). Further, Lunde ('681) teaches a mandrel body having a plurality of fluid holes for drawing a vacuum and pressurizing.

Regarding claims 4 and 5, Murphy et al. ('662) teach removing said mandrel (50) after wrapping said plurality of fiber reinforced pre-preg plies (60,62) and connecting a a source of pressurized gas (52) directly to said bladder (see col. 5, lines 39-42 and Figure 3). It is submitted that said pressurized gas source (52), as shown in Figure 5, includes a mouth-piece in order to connect directly to said bladder.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stefan Staicovici, Ph.D. whose telephone number is (571) 272-1208. The examiner can normally be reached on Monday-Friday 9:30 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael P. Colaianni, can be reached on (571) 272-1196. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

Art Unit: 1732

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Stefan Staicovici, PhD



Primary Examiner

4/4/06

AU 1732

April 4, 2006